

Colorado State University Geosciences Undergraduate Advising Guide



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Welcome to the Department of Geosciences at Colorado State University!

We are so excited that you have decided to pursue your Geosciences degree at CSU. Our program is designed to provide students with a broad education in the field of Geosciences as well as practical, hands-on, and highly experiential learning opportunities. You will learn from faculty experts in the classroom and have access to the real-world learning opportunities available by studying the geology of the Colorado Rocky Mountain region. In addition, undergraduate students may concentrate in one of four areas: Geology, Environmental Geology, Hydrogeology, or Geophysics.

You will also have the opportunity to get fully involved with the many activities of the Geosciences department. We offer weekly department seminars, a mentoring program, research and independent study positions, undergraduate teaching assistant positions, and a student-led Geosciences Club. We hope you'll take advantage of all of the ways to connect with your faculty, department staff, and fellow students!

The purpose of this advising guide is to introduce you to the Geology Major, academic policies at CSU, and provide you with information about academic advising and campus resources. We hope that this guide will help you to become more familiar with the Geosciences program and resources available to you as a CSU student.

If we can assist you at any time during your time at CSU, please do not hesitate to contact us.

Sincerely,

Rick Aster

Professor and Department Head

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Jill Putman

Academic Success Coordinator

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Tips for Success as a Geology Student

- Schedule an advising meeting within the first month of your first semester at CSU. You are required to meet with the Academic Success Coordinator each semester prior to registration in order to receive your advising code. However, new students should plan to schedule their first advising meeting within four weeks of their first semester to check in about transition to CSU and discuss campus resources. We also encourage you to schedule more frequent advising meetings for assistance with study skills, department involvement, and career planning. You can schedule your advising meetings at: www.warnercnr.colostate.edu/advising.
- Check your CSU email account REGULARLY. Important information about course registration and department news will be sent to your CSU email account.
- Connect with us on Facebook! The Geosciences Facebook page is an excellent source of information on scholarships, internships, and other department news. You can access our Facebook page by searching “Colorado State University Geosciences Club.”
- Courses in the Geosciences program build upon each other. The information you learn in early courses will be used in later classes, so take time to really master the foundational material in early coursework.
- Geology is a very hands-on major, so the work you do in your labs is essential. Make sure that you devote time and energy to your lab assignments as you will use those skills in future courses.
- Attend department seminars. Free food and a fun lecture on a wide range of topics in Geosciences!
- Visit the department CANVAS site for job postings, scholarship information, and important updates.
- Attend office hours. Meet with your professors during their office hours to improve your performance in class and to develop relationships and better connect with the department.
- Track your grades and progress in classes. Keep track of your grades and utilize class pages in CANVAS so you know how you’re progressing each semester.
- Attend RAMWelcome and other events for students during the first 50 days. CSU is sponsoring a number of events for new students during your first 50 days on campus. Take advantage of these events and the opportunity to broaden your network at CSU!
- Visit the Career Center early on. The Career Center is an excellent resource to help you secure internships, practice interviewing skills, and prepare for graduate school.
- Let us know how we can help. The Geosciences Academic Success Coordinator, staff, and faculty are all here to support your success here at CSU. Don’t hesitate to reach out to us if you have questions or need resources during your time at CSU.

OVERVIEW OF THE GEOLOGY PROGRAM

The Geology major is broad-based, allowing students to obtain a sound academic and practical basis for professional careers in private sector resource industries, federal and state natural resource management and regulatory agencies, or in education; or for graduate training in specialized areas of geology or related fields in the geosciences. The Geology curriculum provides a technical background within the broader framework of a liberal education. Emphasis is placed on integrating field studies in the Rocky Mountains and elsewhere with on-campus work in both the classroom and the laboratory. In addition to a solid core in geology, students complete course work in math, the physical sciences, communications, and the liberal arts. Students earn a Bachelor of Science degree in Geology and select one of the following degree concentrations: Environmental Geology, Geology, Geophysics, and Hydrogeology. An overview of each of the concentration options is provided in Appendix A.

Learning Outcomes in the Geology Major

Students will demonstrate:

- A solid foundation in the physical sciences and broad understanding of geological processes.
- Application of scientific reasoning skills to data analysis and problem solving in the geosciences, both individually and in teams.
- An awareness of sociopolitical and economic factors and ethical practices and standards that apply to careers in geosciences.

Concentrations with the Geology Major

Environmental Geology Concentration

Environmental Geology prepares students to address the environmental implications of geologic processes and human effects on the earth. Graduates commonly find careers in environmental, engineering, and groundwater firms, and in government agencies.

Geology Concentration

The Geology concentration covers general geology, emphasizing a practical and field-oriented approach that is suited to employment opportunities in the energy and mining industries and other traditional geologic fields. This concentration also provides a strong basis for graduate studies in geology.

Geophysics Concentration

The Geophysics concentration combines a strong foundation in geology with additional training in geophysics, physics, and mathematics. Students pursuing this concentration are well prepared both for employment opportunities in traditional geological fields, and for graduate training in any aspect of geophysics, including seismology and exploration geophysics.

Hydrogeology Concentration

The Hydrogeology concentration provides additional training in geological aspects of water resources and allied disciplines, while ensuring that students are well prepared for a variety of geological fields. Students pursuing this concentration will be particularly well prepared for employment in environmental, engineering, and groundwater firms, government agencies managing or assessing water resources, or for graduate training in hydrogeology or other water resource-related disciplines.

Geology Minor

The minor in Geology provides an opportunity to obtain a valuable background in geology to enhance other majors. While it is flexibly designed to be applicable to a variety of disciplines, the minor is especially suitable for the natural science major in the College of Natural Sciences or the natural resources management major in the Warner College of Natural Resources. The minor program is also a nice compliment to the Anthropology and Geography degree programs. The geology minor advisor provides direction on the specific selection of minor electives.

Careers in Geosciences

A variety of opportunities exist for Geology graduates in the private and public sectors, and in education. Energy companies, industry service companies, mining companies, power companies, computer software companies, and diverse entrepreneurs all hire geologists for exploration, development, mining, production, and research. Federal government agencies use geologists for geologic mapping, oil-gas-coal-groundwater-geothermal resource evaluation, geochemical and resource-related water studies, leasing and conservation studies, resource restoration and rehabilitation programs, hazards mitigation, and research. State and local governments typically hire geologists for geologic and soils mapping, natural resource and hazards evaluation, public information, consulting, and writing. Environmental, engineering, and groundwater firms use geologists for mapping, restoration and rehabilitation planning, monitoring and evaluation of geologic hazards, and site evaluation for feasibility and implementation of construction projects, water management and reuse evaluation, groundwater pollution assessment, groundwater remediation, and contaminant prevention. Schools, colleges, universities, national laboratories, and private research firms employ geologists in a variety of teaching, research, and administrative positions. For more information on possible career paths with a degree in Geology, please go to: <http://whatcanidowiththismajor.com/major/geology/>.

Participation in internships, volunteer activities, or cooperative education and public outreach is highly recommended to enhance practical training and development. Graduates who go on for advanced studies can acquire a strong disciplinary base to continue in one of a number of geological disciplines or can opt for related fields of study, including seismology, hydrology, meteorology, oceanography, and the space sciences. Those with advanced degrees can attain more responsible positions with the possibility of rising to top professional levels. Some examples of career possibilities include, but are not limited to: educator, professor, environmental consultant, exploration geologist, petroleum geologist, environmental geologist, geologist, geophysicist, hydrologist, mining geologist, oceanographer, production geologist, researcher, resource evaluator, geobiologist, or seismologist. With additional training, geologists may also pursue careers in business, law, medicine, and other diverse professional

fields. Geology graduates acquire a number of problem solving and analytical skills through the degree program, and these can be applied to many different career paths. By obtaining a teaching certificate, graduates can teach earth sciences and related subjects in primary and secondary schools.

Students in the Geology major also have access to career counseling through the WCNR Career Services office, a satellite office of the CSU Career Center. For more information on the Career Services available through WCNR, please visit: <http://warnercnr.colostate.edu/students/current/career-services>.

Summer Field Camp

All students in the Geology major are required to complete GEOL 436: Geology Summer Field Course as part of the degree program. The summer field camp is a capstone experience where students gain valuable experience in geologic mapping, measuring sections, and interpreting geologic history in New Mexico and Colorado. For more information about the summer field course, please visit: <http://warnercnr.colostate.edu/geo-undergraduate-study/summer-field-camp>.

ACADEMIC ADVISING

Academic advising is a collaborative process between an advisor and student advisee for timely consultation, sharing of accurate and complete information, careful listening, critical evaluation, and respectful interchange. This process requires the student and advisor to engage with one another to discuss the student's curricular and co-curricular interests, goals, and needs through multiple channels (e-mail, phone, programs, individual counseling sessions, etc.) and places the ultimate decision-making authority with the student. All students are entitled to a quality advising system. The following factors characterize such a system:

- Accessible to students
- Cultural competence
- Adequate time spent in advising sessions
- Advisor who understands the Geology curriculum, concentration options, and career opportunities in Geosciences
- Informed about both campus and department resources
- Adequate records maintenance
- Regular mass communication with students about internship and job opportunities, department news, etc.

Through academic advising:

- Students will demonstrate self-advocacy by identifying needs and accessing relevant campus resources.
- Students will understand and have the ability to explain university policies and procedures.
- Students will develop educational and professional goals.

- Students will have a thorough understanding of the Geology major and concentrations.
- Students will reflect upon their classroom and college experiences and translate them into future plans and goals.

The Academic Success Coordinator for the Geosciences Department is Jill Putman. You will need to meet with Jill every semester you are enrolled at CSU for advising guidance. Jill can be reached at jill.putman@colostate.edu or (970) 491-4196 and her office is located in 322 Natural Resources Building. To schedule a meeting with Jill, please go to: www.warnercnr.colostate.edu/advising.

Students have access to advising resources online at: <http://advising.colostate.edu/students/index.cfm>. In addition to the tools provided on this site, students can access helpful resources (including a GPA calculator) in RAMweb.

Advisor Role and Responsibilities

The Academic Success Coordinator's responsibilities include the following:

- Help students define and develop realistic educational and career goals
- Assist students in choosing an appropriate concentration and planning semester schedules
- Assist students in monitoring and evaluating their educational progress
- Discuss relationships between instruction program and career and assist students in identifying career opportunities
- Provide updated communications via Facebook and CANVAS
- Inform students of the nature of the advisor/student advisee relationship
- Interpret and provide rationale for instructional policies, procedures, and requirements
- Monitor all designated educational transactions, e.g., course selection, changes of major, graduation requirements, etc.
- Maintain an advising record for each student
- Designate and post hours available for advising

Advisee Role and Responsibilities

Students carry important responsibilities in the advising process. In the interest of successfully completing a degree program, a student must be proactive in finding the necessary resources needed for attaining a degree. In order to contribute to an effective advising relationship, students are expected to:

- Meet at least once a semester with the Academic Success Coordinator to receive advising code.
- Set appointments in a timely manner to ensure receipt of advising code before registration access time.
- Clarify personal values, abilities, interests, and goals.
- Become knowledgeable of all graduation requirements and adhere to institutional policies, procedures, and deadlines.
- Take initiative in preparing questions for each advising session.

- Follow through on actions identified during each advising session.
- Become familiar with the Career Center and other campus resources.
- Read advising newsletters and join the department Facebook page.
- Responsibly evaluate designated advisor in order to strengthen the quality of advisement.

Role of Faculty Mentor

In addition to the Academic Success Coordinator, all Geology students are assigned a faculty mentor after their first year in the program. Faculty mentors are assigned based on career and academic interests. The role of the faculty mentor is to assist with:

- Career Goals
- Professional Development
- Professional Networking
- Graduate School Exploration and Preparation
- Assistance with Course Selection (particularly with elective courses)

COURSE CREDIT AND ACADEMIC POLICIES

Credit Hour and Credit Load

A credit hour is defined as 50 minutes of lecture or discussion/recitation per week for 16 weeks (800 minutes in a semester), 100 minutes of laboratory per week for 16 weeks (1600 minutes in a semester) when outside preparation is required, or 150 minutes of laboratory per week for 16 weeks (2400 minutes in a semester) when no outside preparation is required. For workload planning purposes (and to graduate with 120 credits in eight semesters), students should plan on an average of 15 credits per semester and should expect that each credit hour will require approximately two to three hours (for some students in some classes, more time and in a few classes less time) of effort per week to attend classes and to accomplish readings and out-of-class assignments in preparation for successful completion of the course requirements.

Transfer Credit

To view how course from another institution will transfer to CSU, please go to: www.transferology.com. A student may apply 64 transfer credits from a regionally accredited 2-year institution toward their degree at CSU. There is no limit on the amount of credit that can be transferred from a regionally accredited 4-year institution. Only coursework completed with a grade of C- or better will be accepted in a transfer. Transfer grades and credits are not computed within the cumulative GPA earned at CSU. If coursework presented for transfer is over 10 years old, the academic department will need to review it for applicability towards degree requirements. Student must complete a minimum of 30 credits at CSU to earn a CSU degree.

Advanced Placement (AP) Credit

The Advanced Placement Tests administered by The College Board are used by Colorado State University to award credit and advanced placement in any of several fields in which a student may have participated in high school. For more information about Advanced Placement please see the Registrar's Office website at <http://registrar.colostate.edu/transfer-credit/> and then select "Transferring your Examination/Test Credit." See also the College Board website at apstudent.collegeboard.org/home.

International Baccalaureate (IB) Credit

Students who graduate from high school with an International Baccalaureate Diploma or have completed International Baccalaureate examinations may receive University credit for scores of four or higher. A list of courses for which credit will be granted can be found at <http://registrar.colostate.edu/transfer-credit/> and then select "Transferring your Examination/Test Credit."

Placement Exams

Incoming CSU students must complete a Math Placement Exam and a Composition Placement process prior to registering for courses. For more information on the Math Placement Exam, please go to: <http://www.math.colostate.edu/placement/placement.shtml>. For more information on the Composition Placement process, please go to: <http://composition.colostate.edu/placement.html>.

Important Academic Policies

Repeat/Delete

Repeat/Delete is a one-time per course grading option that may be used by undergraduate students who repeat a course. Once a student has graduated from CSU, a student may not repeat/delete any CSU course taken prior to the date of graduation. The following rules apply when the Repeat/Delete option is applied:

1. The grade received in the repeated course will be used in calculating the student's GPA, regardless of whether the repeated grade is higher, the same as, or lower than the initial grade received. The initial grade will remain on the transcript, but will not be used in calculating the GPA when the Repeat/Delete option is applied.
2. Students must complete a Repeat/Delete request form through the Registrar's Office in order to utilize their Repeat/Delete credit. It is the student's responsibility to request the Repeat/Delete option from the Registrar's Office, before the expiration of the course withdrawal period in the semester in which the course is first repeated.
3. The Repeat/Delete option may be used for a maximum of twelve (12) credit hours and no more than three courses. Instructors may prohibit use of the Repeat/Delete option for final grades given as a penalty for academic misconduct in accordance with the academic integrity policy under section I.7.2 of the academic faculty and administrative staff manual.
4. If the course is repeated at any time subsequent to the use of the Repeat/Delete option, all grades in that course, except the initial grade, are used in computing the student's GPA.

5. Although a course may be repeated as often as a student chooses, the Repeat/Delete option can be used only the first time a course is repeated.
6. The Repeat/Delete option will not retroactively affect academic standing for previous terms. For example, use of the repeat/delete option may change a student's cumulative grade point average, but will not change the notation of probation previously recorded on the student's record.

Note: Although the University does not use the original course grade for GPA calculation once the Repeat/Delete option has been used, other educational institutions and potential employers may use this grade in their GPA calculation. Medical schools, many law schools, and other graduate programs, for example, may recalculate cumulative GPA using ALL grades on a transcript.

Retroactive Withdrawal

A student may request that all grades in an academic period (one or more semesters of continuous enrollment) be retroactively removed and be replaced by entries of "W" on his or her transcript. A retroactive withdrawal may be granted only when a student could neither function normally during the academic period nor be reasonably expected to complete a university withdrawal due to extenuating circumstances such as an incident leading to major physical or mental trauma.

Failure to academically perform due to factors such as the following would not generally qualify a student for retroactive withdrawal:

- Bad habits or poor judgment
- Time management issues
- Failed relationships/roommate problems
- Failure to use University resources
- Ignorance of University policies

A retroactive withdrawal is not allowed if a student has earned a degree from Colorado State and the semester in question was used to meet University, college, or departmental requirements for the degree. Generally, requests are not allowed after four years have elapsed since the end of the last semester covered by the request.

Students are allowed two requests for the same period, the second request requiring additional supportive documentation. If granted, assessment of tuition and fees remains unchanged. The student's academic record will remain unchanged if a request is denied.

Students must meet with an academic advisor to review the retroactive withdrawal application process.

University Withdrawal

University withdrawal (to drop all courses and leave the University) is different from dropping one or more courses. If the first day of the semester has not yet begun, students may cancel their course schedule through RAMweb without any charge. Once classes have started, students who are planning to drop all courses and leave the University for any reason during the fall or spring term must contact the Center for Advising and Student Achievement (CASA), Room 121, The Institute for Teaching and Learning (TILT), prior to their departure to complete the withdrawal process. Unless this procedure is followed, students are not eligible for any adjustment (if appropriate) of tuition and fees and will receive failing grades in all courses.

Planned Leave

Undergraduate Planned Leave is a status intended to help students more easily and effectively take one semester away from their CSU studies and successfully return again. Students who obtain Planned Leave status and comply with its requirements do not have to re-apply for admission to CSU upon return. In addition, Planned Leave students will be tracked in an attempt to help facilitate their successful and timely return.

All undergraduate students seeking their first Bachelor's degree are requested to communicate their plans when leaving the University in order to determine eligibility for an approved Planned Leave. Students who meet the established eligibility requirements will be granted a Planned Leave for one semester. (A semester is defined as a fall or spring semester and excludes summer sessions; for example, Planned Leave is granted for fall and the student returns the following spring, or is granted for spring-summer and returns the following fall.) Any student leaving for more than one semester should utilize the university 'Returning Student' process via the Office of Admissions when they return. (See <https://admissions.colostate.edu/returningstudents>.) Any student leaving longer than one semester due to military service should work with the Adult Learner and Veteran's Services Office or the Veteran's Benefits Office to discuss available options.

Some examples of situations where Planned Leave might be appropriate include students on domestic internships, official assignment for the University, military service, mission service, leave due to medical reasons, family crisis, financial crisis, work, etc.

Per university transfer evaluation guidelines, students on Planned Leave may enroll at another domestic post-secondary institution during their Planned Leave. Any student planning on going to an international post-secondary institution must have a conversation with, and follow the processes of, the Education Abroad Office to evaluate what, if any, of the credits taken might transfer back to CSU. (See <https://educationabroad.colostate.edu/students>.)

International study while on Planned Leave is not the same as regular Education Abroad. Many different issues arise and students in the Education Abroad program must follow processes. Students participating in Education Abroad (for-credit study, intern, volunteer, work, or research abroad programs) have a

separate university process for managing planned leave and therefore are not eligible to participate in this policy. See <https://educationabroad.colostate.edu/students>.

In order to be eligible for planned leave, a student must meet all of the following criteria:

- a. Undergraduate Degree Seeking Student (RI & CE) seeking first Bachelor's degree (2nd Bachelor students are not eligible)
- b. Academic Standing: good standing or probation one or two

Academic Probation

Failure to maintain a cumulative GPA (CUM GPA) earned at Colorado State University of 2.000 or higher will result in academic probation for a period of two regular semesters (fall and spring). Grades earned in regular credit courses through the Division of Continuing Education or the Colorado State summer session will count toward the CUM GPA regardless of when those classes are taken. At any time that the CUM GPA is raised to a 2.000 or higher, the student will return to regular academic standing.

Students who withdraw from Colorado State while on probation will remain on probation if they return to the University. Students on academic probation who return to Colorado State after attending another institution will continue their probation, since transfer credits are not computed within the CUM GPA earned at Colorado State.

Students who are on Academic Probation will be required to meet with the Academic Success Coordinator in the Geosciences department on a regular basis and attend a probation workshop to discuss a plan for academic recovery.

Academic Dismissal

Students on academic probation who do not raise their CUM GPA to a 2.0 or higher after two regular semesters (fall and spring) will be dismissed from Colorado State University. Students who have been academically dismissed from Colorado State University have three options to seek readmission. First, they can take classes through the GUEST program, through the Colorado State University Summer Session, or through the Division of Continuing Education, but they are not eligible to apply for readmission until the CUM GPA is raised to 2.000 or higher.

The second option available to students who have been academically dismissed is to enroll at another accredited institution and meet the requirements to be admitted as a transfer student to Colorado State University. Upon transferring back to Colorado State University, students will have two semesters following re-enrollment to raise their CUM GPA earned at Colorado State University to 2.000 or higher or face academic dismissal again. Transfer credits are not computed within the CUM GPA earned at Colorado State University.

Students who have raised the CUM GPA to 2.000 or higher or who apply as students transferring from another institution may apply for readmission to the University subject to any enrollment limitation as set by the Colorado Department of Higher Education or the governing board.

RAMWEB, DARS, AND REGISTRATION INFORMATION

RAMweb

RAMweb (<https://ramweb.colostate.edu>) is the student portal at CSU and provides online access to registration, financial information, personal records, current job postings, and more. Here are some of the tools available in RAMweb:

- Wish list builder – allows you to plan your intended schedule for next semester
- Advisor assignment and contact information
- Registration access
- Degree Progress Audit (DARS) – see below
- GPA Predictor
- Financial Information – including billing statements, financial aid award, student job listings
- Transcript
- Link to CSU email account

You should plan to familiarize yourself with RAMweb and check your CSU email REGULARLY for messages.

Degree Progress Report (DARS)

DARS is the degree audit tool used for verification of University core curriculum, program, minor, and interdisciplinary study requirements. The audit provides a dynamic report showing all courses required for a student to graduate with their declared majors, minors, and interdisciplinary study programs to enhance student degree and program planning. The audit includes how all transfer and CSU courses count towards a student's degree.

Students can access their degree audit for all declared majors and minors through RAMweb.

To do so:

1. Log into your RAMweb account.
2. Click on the "My Undergraduate Degree Plan (DARS)" link under the Student Records section.
3. Click on the "Run Audit" button to run an audit for your current declared major(s) and minor(s), or click on the "What-If?" button and select the desired program to run an audit for a different major than your declared major.
4. Click on the "View Submitted Audits" link.
5. Click on the major link under the View section to open the audit.
6. Requirement sections listed in green with a check mark have been completed or are in progress, and those listed in red with an "X" have not been completed. Sections not completed will list all courses/requirements that will need to be completed to fulfill the section.
7. Courses you are registered for (in progress/IP courses) will show on the audit in the sections they will fulfill once complete

Registration

Students register for classes, including adding or dropping courses, online through RAMweb at <https://ramweb.colostate.edu>. Before registering for classes, students must complete the Registration Ready portion of the process. In order to communicate quickly and effectively with students, the University requires each enrolled student to provide an email address at Registration Ready. Students are also required to maintain a current mailing address. Once Registration Ready is complete, a student may then register for classes.

You will need a 6-digit advising code each semester to get Registration Ready. To get your advising code, you will need to meet with the Academic Success Coordinator before your registration window opens.

Registration and payment deadlines must be met in order for registration to proceed. Students should respond to correspondence from the University, including email correspondence, in a timely manner to avoid missing crucial deadlines.

INVOLVEMENT AND RESOURCES

Student Involvement

Warner College of Natural Resources (WCNR) supports student organizations and clubs dedicated to enhancing the College's supportive learning community. These organizations provide direct access to the experiences that help to shape your future goals and career while helping you build a network of friends who share common interests and goals. All clubs and organizations are open to all students. Clubs most closely aligned with our department are introduced below. For more information and a complete list of all WCNR clubs and organizations, visit: <http://warnercnr.colostate.edu/students/current/student-organizations>.

Department Seminars

The Geosciences Department sponsors weekly seminars throughout the Fall and Spring semester. A full listing of the department seminars can be accessed at: <http://warnercnr.colostate.edu/geo-news-and-events/department-seminars>. Students are encouraged to attend seminars to learn more about an advanced topic of interest in the field and network with faculty, staff, and guests of the department.

Department Positions

There are several department positions (paid and unpaid) available to undergraduate students including research, independent study, grader, teaching assistant, and office assistant. Upper-class students are strongly encouraged to apply for department positions. To apply for a position with the department, students must complete the Geosciences Department Application, which is linked on the Geosciences department website: <http://warnercnr.colostate.edu/geo-undergraduate-study/student-involvement>.

Geosciences Club, American Association of Petroleum Geologists, and Society of Exploration Geophysicists

The Geosciences Club is the student-led organization connected to the Geosciences Department. Within the Geosciences Club, there are also student chapter affiliations of the Society of Exploration Geophysicists, Society of Economic Geologists, and American Association of Petroleum Geologists. Membership in these organizations is open to any student at CSU. Clubs meet regularly during the academic year and provide an opportunity for students to network and learn more about career paths in the field. For more information on the Geosciences Club, please go to their Facebook page by searching “Colorado State University Geosciences Club” on Facebook.

Mentoring Program

Undergraduate students in the Geosciences department have the opportunity to apply for a graduate student mentor in the department. Students are recruited for mentor and mentee positions each year, and the participants are selected on an application basis. Additional information about the Mentoring Program is provided to students at the beginning of each year.

Scholarships

There are a number of scholarships offered through the Geosciences department and WCNR. The CSU Scholarship Application (CSUSA) opens on December 1 and applications for scholarships are due by March 1 each year. All of the department and WCNR scholarships are administered directly through the CSUSA. An overview of department scholarships is available at: <http://warnercnr.colostate.edu/geo-undergraduate-study/scholarships-and-fellowships>. The Academic Success Coordinator also promotes outside scholarships available to students through CANVAS and Facebook.

WCNR College Council

The council’s mission is to provide leadership and representation for the student body of the Warner College of Natural Resources; to create a sense of community through special events and programming for students, staff, and faculty; and to ensure the future of natural resource professions through outreach to the outside community. Contact Advisor Ethan Billingsley (Ethan.Billingsley@colostate.edu) for more information.

Campus Computing and the WCNR PC Labs

Students must have an eID (electronic identification). Shortly after students apply for admission to Colorado State University, the Office of Admissions mails instructions for using a secure site to establish an eID. If you have forgotten your eID, use the eidentity website (<https://eid.colostate.edu/>) for help. If you need assistance establishing your eID, please contact the Office of Admissions at admissions@colostate.edu or (970) 491-6909. You will use this eID to log onto RAMweb and other sites.

As a Warner College of Natural Resources’ student, you have access to computer labs and can register for a WCNR PC Lab account. Registering for an account allows you access to the three PC labs in the Natural Resources Building, as well as provides you with a printing quota for printing black and white

and color copies. There are two labs on the second floor of the Natural Resource building in room 232 and one lab on the first floor in room 107A.

There are two ways you can register for your account:

1. From your home computer, visit www.warnercnr.colostate.edu and click on “IT Support & PC Labs,” next click on “PC Labs” and scroll down, under “Useful Links” you will see “Request WCNR Account.” From here follow the instructions provided.
2. From campus, visit any of the computer labs and speak to the lab assistant.

Accommodations

Colorado State University is required under Sections 503 and 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act (ADA), and the ADA Amendments Act (ADAAA) to provide accommodations for students with documented disabilities. Students who need reasonable accommodations must register with Resources for Disabled Students (RDS). They are located at 100 General Services building and can be contacted by phone at (970) 491-6385.

Non-Discrimination Statement

Colorado State University does not discriminate on the basis of race, age, color, religion, national origin, gender, disability, sexual orientation, veteran status, or disability. The University complies with the Civil Rights Act of 1964, Title IX of the Educational Amendments Act of 1972, Section 503 and 504 of the Rehabilitation Act of 1973, Section 402 of the Vietnam Era Veteran’s Readjustment Act of 1974, the Age Discrimination Employment Act of 1967, as amended, Americans with Disabilities Act of 1990, the Civil Rights Act of 1999, and all civil rights laws of the State of Colorado. If you feel that your rights have been comprised at CSU, several resources are available to assist:

- Conflict Resolution and Student Conduct Services
- Office of Equal Opportunity

Campus Resources

- Academic Advancement Center: provides academic support to student who are from low-income, or first generation families, or who have physical and/or learning disabilities. www.aac.colostate.edu
- Adult Learner and Veteran Services: supports adult learners and student veterans to strengthen academic achievement. www.alvs.colostate.edu
- The Career Center: offers services focused on career exploration and counseling, career-related experiential learning opportunities, job search assistance, and resume/cover letter and interviewing training. www.career.colostate.edu

- Center for Advising and Student Achievement (CASA): provides academic and major exploration for undeclared students and offers information and resources to students who are having academic difficulty and services regarding university withdrawal. www.casa.colostate.edu

- CSU Health Network: offers students medical, dental, optometry, physical therapy, counseling, and health education and prevention services. www.health.colostate.edu

- The Institute for Learning and Teaching: offers services related to student success and academic excellence including workshops on academic skills, faculty lectures, and tutoring services for specific courses (including math, chemistry, and physics). www.tilt.colostate.edu

- Office of International Programs: houses the International Area Studies Program, Study Abroad and international internship programs, International student advising, immigration documentation, and cross-cultural programming. www.educationabroad.colostate.edu

- PACe Program: walk-in tutoring services for MATH courses 117-126, Room 136 Weber Building. http://www.math.colostate.edu/PACe/PACe_welcome.shtml

- Registrar's Office: for information on academic records, semester deadlines and registration, degree and transfer evaluation, and veterans educational benefits. www.registrar.colostate.edu

- Resources for Disabled Students: accommodations, awareness, and advocacy for students with physical and learning disabilities. www.rds.colostate.edu

- Student Financial Services: resources on scholarships, student employment, residency, and your academic bill. For WCNR Scholarships: aid available to students in the Warner College of Natural Resources. www.sfs.colostate.edu

- Student Leadership, Involvement, and Community Engagement (SLiCE): resources for over 300 student organizations, student leadership, and community service. www.slice.colostate.edu

- The Writing Center: offers free consulting to all students concerning any writing task. <http://writing.colostate.edu/center.cfm>

APPENDIX A: CONCENTRATION HANDOUTS

Geology Concentration



The Geology concentration provides comprehensive, broad-based training in Geology, emphasizing a practical and field-oriented approach that is well-suited to employment opportunities as a geologist in the energy and mining industries, government agencies, consulting firms and other geologic fields. In addition, the Geology concentration provides excellent background for many other professions, including secondary school teachers, science writers, lawyers specializing in environmental and resource issues, and resource or hazards specialists in the insurance, real estate, and securities fields. The Geology concentration provides students with an excellent background to specialize in later and a strong basis for graduate studies in geology.

Careers

- Geologist
- Exploration geologist
- Production geologist
- Mine geologist
- Well-site geologist
- GIS Specialist
- Petrographer
- Laboratory Technician
- Science Writer
- High school or junior high school science teacher (requires additional training in education)

Key Courses

- GEOL 332: Mineral Optics
- GEOL 344: Sedimentation and Stratigraphy
- GEOL 364: Igneous and Metamorphic Petrology
- GEOL 366: Sedimentary Petrology and Geochemistry
- GEOL 372: Structural Geology
- GEOL 436: Geology Summer Field Course
- GEOL 454: Geomorphology
- NR 319: Geospatial Applications in Natural Resources or
- NR 322: Intro to Geographical Information Systems

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Colorado State University

WARNER COLLEGE OF NATURAL RESOURCES

Department of Geosciences

Geology Concentration

Curriculum Map

Freshman Year	Credits	Sophomore Year	Credits
<u>Fall Semester</u> CO 150: College Composition GEOL 150: Physical Geology for Scientists MATH 124: Logarithmic and Exponential Functions MATH 125: Numerical Trigonometry MATH 126: Analytical Trigonometry AUCC 3B: Arts and Humanities	3 4 1 1 1 3	<u>Fall Semester</u> GEOL 232: Mineralogy GEOL 332: Optical Mineralogy CHEM 113: General Chemistry II CHEM 114: General Chemistry II Lab AUCC 3C: Social/Behavioral Sciences Elective	3 2 3 1 3 3-4
<u>Spring Semester</u> GEOL 154: Historical and Analytical Geology MATH 160: Calculus for Physical Sciences I CHEM 111: General Chemistry I CHEM 112: General Chemistry I Lab AUCC 3D: Historical Perspectives	4 4 3 1 3	<u>Spring Semester</u> GEOL 364: Igneous and Metamorphic Petrology GEOL 250: The Solid Earth MATH 161: Calculus for Physical Sciences II CO 300 or JTC 300 or CO 301B	4 3 4 3
Junior Year	Credits	Senior Year	Credits
<u>Fall Semester</u> GEOL 344: Sedimentation and Stratigraphy PH 141: Physics for Scientists I STAT 301: Introduction to Statistical Methods AUCC 3B: Arts and Humanities	4 5 3 3	<u>Fall Semester</u> GEOL 366: Sedimentary Petrology and Geochemistry PH 142 or SOCR 470 Technical Elective NR 319 or NR 322: Geospatial Analysis	4 3-5 3-4 4
<u>Spring Semester</u> GEOL 372: Structural Geology GEOL 376: Geologic Field Methods Upper Division Geology Course AUCC 3E: Global and Cultural Awareness	4 3 3-4 3	<u>Spring Semester</u> GEOL 454: Geomorphology Upper Division Geology Course Electives	4 3-4 7-8
<u>Summer Semester</u> GEOL 436: Summer Field Course	6	*Additional courses may be required to fulfill prerequisite requirements	
		Program Total	120



Colorado State University

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Department of Geosciences

ENVIRONMENTAL GEOLOGY CONCENTRATION



Environmental Geology students develop expertise in surface and shallow-subsurface processes that shape Earth and provide important soil and water resources and services. Graduates will be prepared for employment opportunities that address environmental implications of geological processes and human impacts on Earth.

The curriculum emphasizes course work in the fundamentals of geology, surface and shallow-subsurface processes, field-based research methodologies, and environmental geology.

The curriculum allows students to pursue positions with public, private, and nonprofit organizations that address environmental/natural resource management issues, regulatory agency compliance, hazard identification and mitigation, and fundamental scientific investigations to inform natural resource policy and decision making, promote good stewardship of Earth, and resource availability. The curriculum also provides a strong foundation for those planning to continue on to graduate studies.

Careers

- Consulting companies (environmental, engineering or groundwater focused)
- State and federal agencies
- Non-profit agencies
- Environmental consulting companies
- State Department of Natural Resources
- National Park Service
- Poudre School District
- Local water boards

Key Courses

SOCR 240: Introductory Soil Science
GEOL 150: Physical Geology for
Scientists and Engineers
GEOL 376: Geologic Field Methods
GEOL 436: Geology Summer Field Course
GEOL 446: Environmental Geology
GEOL 452: Hydrogeology
GEOL 454: Geomorphology
WR 416: Land-Use Hydrology

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Colorado State University

WARNER COLLEGE OF NATURAL RESOURCES

Department of Geosciences

ENVIRONMENTAL GEOLOGY CONCENTRATION

CURRICULUM MAP

Freshman Year	Credits	Sophomore Year	Credits
<u>Fall Semester</u> CO 150: College Composition GEOL 150: Physical Geology for Scientists MATH160: Calculus for Physical Sciences I AUCC 3B: Arts and Humanities <u>Spring Semester</u> GEOL 154: Historical and Analytical Geology MATH 161: Calculus for Physical Sciences II CHEM 111: General Chemistry I CHEM 112: General Chemistry I Lab	3 4 4 3 4 4 4 1	<u>Fall Semester</u> GEOL 232: Mineralogy CHEM 113: General Chemistry II CHEM 114: General Chemistry II Lab AUCC 3B: Arts and Humanities AUCC 3D: Historical Perspectives <u>Spring Semester</u> GEOL 364: Igneous and Metamorphic Petrology PH 141: Physics for Scientists and Engineers CO 300 or JTC 300 or CO 301B AUCC 3C: Social/Behavioral Sciences Elective	3 3 1 3 3 4 5 3 3 3
Junior Year	Credits	Senior Year	Credits
<u>Fall Semester</u> GEOL 344: Sedimentation and Stratigraphy PH 142 or SOCR 470 SOCR 240: Introductory Soil Science STAT 301 or STAT 315 <u>Spring Semester</u> GEOL 372: Structural Geology GEOL 376: Geologic Field Methods NR 319 or NR 322: Geospatial Applications AUCC 3E: Global and Cultural Awareness <u>Summer Semester</u> GEOL 436: Summer Field Course	4 3-5 4 3 4 3 4 3 6	<u>Fall Semester</u> GEOL 452: Hydrogeology GEOL 366: Sedimentary Petrology and Geochemistry WR 416: Land Use Hydrology Directed Technical Elective <u>Spring Semester</u> GEOL 446: Environmental Geology GEOL 454: Geomorphology Directed Technical Elective Electives *Additional courses may be required to fulfill prerequisite requirements Program Total	4 3-5 3 3-4 3 4 3-4 3-7 120



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Hydrogeology Concentration



The Hydrogeology concentration provides training in geological aspects of water resources and allied disciplines, while ensuring that students are well prepared for a variety of geological fields. Students pursuing this concentration will be particularly well prepared for employment in environmental, engineering, water resource, geotechnical and groundwater firms, government agencies managing or assessing water resources, or for graduate training in hydrogeology or other water resource-related disciplines.

Careers

- Consulting companies (environmental, engineering or groundwater focused)
- Water Resource Companies
- Geotechnical Firms
- Energy and Mineral Industries
- Local, State and Federal Agencies
- Non-profit Agencies

Key Courses

GEOL 436: Geology Summer Field Course
GEOL 452: Hydrogeology
GEOL 454: Geomorphology
GEOL 366: Sedimentary Petrology and Geochemistry
GEOL 376: Geologic Field Methods
WR 416: Land-Use Hydrology
MATH 340: Introduction to Ordinary Differential Equations
Upper-Division Directed Electives in Geology and related fields

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Colorado State University

WARNER COLLEGE OF NATURAL RESOURCES

Department of Geosciences

Hydrogeology Concentration

Curriculum Map

Freshman Year	Credits	Sophomore Year	Credits
<u>Fall Semester</u> CO 150: College Composition 3 GEOL 150: Physical Geology for Scientists 4 MATH124: Logarithmic and Exponential Functions 1 MATH125: Numerical Trigonometry 1 MATH126: Analytical Trigonometry 1 AUCC 3C: Social/Behavioral Sciences 3 AUCC 3D: Historical Perspectives 3 <u>Spring Semester</u> GEOL 154: Historical and Analytical Geology 4 MATH 160: Calculus for Physical Sciences I 4 CHEM 111: General Chemistry I 4 CHEM 112: General Chemistry I Lab 1		<u>Fall Semester</u> GEOL 232: Mineralogy 3 CHEM 113: General Chemistry II 3 CHEM 114: General Chemistry II Lab 1 MATH 161: Calculus for Physical Sciences II 4 AUCC 3B: Arts and Humanities 3 <u>Spring Semester</u> GEOL 364: Igneous and Metamorphic Petrology 4 PH 141: Physics for Scientists and Engineers I 5 CO 300 or JTC 300 or CO 301B 3 MATH 261: Calculus for Physical Sciences III 4	
Junior Year	Credits	Senior Year	Credits
<u>Fall Semester</u> GEOL 344: Sedimentation and Stratigraphy 4 WR 416: Land Use Hydrology 3 PH 142 or SOCR 470 3-5 MATH 340: Intro to Ordinary Differential Equations 4 <u>Spring Semester</u> GEOL 372: Structural Geology 4 GEOL 376: Geologic Field Methods 3 STAT 301: Introduction to Statistical Methods 3 AUCC 3E: Global and Cultural Awareness 3 <u>Summer Semester</u> GEOL 436: Summer Field Course 6		<u>Fall Semester</u> GEOL 452: Hydrogeology 4 GEOL 366: Sedimentary Petrology and Geo-chemistry 4 Directed Technical Elective 3-4 NR 319 or NR 322 4 <u>Spring Semester</u> AUCC 3B: Arts and Humanities 3 GEOL 454: Geomorphology 4 Directed Technical Elective 3-4 Electives 0-3 *Additional courses may be required to fulfill prerequisite requirements Program Total	120



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Department of Geosciences

GEOPHYSICS CONCENTRATION



The Geophysics concentration combines a strong foundation in geology with additional training in geophysics, physics, and mathematics. Students pursuing this concentration are well prepared both for employment opportunities in traditional geological fields, and for graduate training in any aspect of geophysics, including seismology, geodynamics, energy exploration and resource management geophysics.

Careers

- Petroleum Exploration
- Mineral Exploration
- Hydrogeophysics (Groundwater Resource Management)
- Natural Hazard Management
- K-12 and Higher Education
- Petroleum and mining companies
- Federal, State, and local government agencies responsible for natural resource and natural hazard management
- Geophysical service companies involved in petroleum and mineral exploration, water resource management archeology and land use assessment
- K-12 School districts filling STEM disciplinary needs

Key Courses & Elective Options

MATH 340: Intro. Ordinary Differential Equations

MATH 151: Mathematical Algorithms in Matlab I

PH 341: Mechanics

PH 353: Optics and Waves

PH 351: Electricity and Magnetism

GEOL 436: Summer Geology Field Camp

GEOL 442: Applied Geophysics

GEOL 570: Tectonics

GEOL 578: Global Seismology

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Colorado State University

WARNER COLLEGE OF NATURAL RESOURCES

Department of Geosciences

GEOPHYSICS CONCENTRATION

CURRICULUM MAP

Freshman Year	Credits	Sophomore Year	Credits
<u>Fall Semester</u> CO 150: College Composition 3 GEOL 150: Physical Geology for Scientists 4 CHEM 111: General Chemistry I 4 CHEM 112: General Chemistry I Lab 1 AUCC 3B: Arts and Humanities 3 <u>Spring Semester</u> GEOL 154: Historical and Analytical Geology 4 MATH 160: Calculus for Physical Sciences I 4 AUCC 3C: Social/Behavioral Sciences 3 CHEM 113: General Chemistry II 3 CHEM 114: General Chemistry II Lab 1		<u>Fall Semester</u> GEOL 232: Mineralogy 3 MATH 161: Calculus for Physical Sciences II 4 PH 141: Physics for Scientists I 5 AUCC 3D: Historical Perspectives 3 <u>Spring Semester</u> GEOL 364: Igneous and Metamorphic Petrology 4 GEOL 250: The Solid Earth 3 MATH 151: Math Algorithms in Matlab I 1 MATH 261: Calculus for Physical Sciences III 4	
Junior Year	Credits	Senior Year	Credits
<u>Fall Semester</u> GEOL 344: Sedimentation and Stratigraphy 4 PH 142: Physics for Scientists II 5 STAT 301 or STAT 315 or MATH 369 3 AUCC 3B: Arts and Humanities 3 <u>Spring Semester</u> GEOL 372: Structural Geology 4 GEOL 376: Geologic Field Methods 3 MATH 340: Intro to Ordinary Differential Equations 4 CO 300 or CO 301B or JTC 300 3 <u>Summer Semester</u> GEOL 436: Summer Field Course 6		<u>Fall Semester</u> Directed Technical Elective 8 Elective 4 <u>Spring Semester</u> AUCC 3E: Global and Cultural Awareness 3 Upper Division Geology Course 3-5 Directed Technical Elective 4-6 Elective 4 *Additional courses may be required to fulfill prerequisite requirements Program Total	120



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